

# Notice of Allowability

Application No.

09/771,708

Examiner

BJ Forman

Applicant(s)

BALASUBRAMANIAN ET AL.

Art Unit

1634

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendments of 26 November 2003 and Examiner's Amendments.
2. ☒ The allowed claim(s) is/are 43,44 and 47-55.
3. ☒ The drawings filed on 30 January 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 1103/0204.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

  
BJ Forman  
Primary Examiner  
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## **NOTICE OF ALLOWANCE**

### ***Status of the Claims***

This action is in response to papers filed 26 November 2003 in which claims 43 and 50 were amended and claim 55 was added and further in response to an Interview between Applicant's representatives and the examiner on 5 February 2004 and the resulting examiner's amendments detailed below. All of the amendments have been thoroughly reviewed and entered.

The previous rejections in the Office Action dated 11 June 2003 are withdrawn in view of the amendments. The amendments place the claims in condition for allowance.

Claims 43, 44 and 47-55 are in condition for allowance.

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David Jackson on 5 February 2004.

The application has been amended as follows:

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REPLACE CLAIM 43 WITH THE FOLLOWING:

43. An array of nucleic acids comprising;
- a) a support having a solid surface;
  - b) a plurality of distinct optically resolvable polynucleotide molecules immobilized at discrete sites on said solid surface;
  - c) an attachment between said solid surface and each of said polynucleotide molecules for the immobilization of said polynucleotide molecules on said solid surface;
  - d) wherein each of said polynucleotide molecules comprises a polynucleotide duplex covalently linked to form a hairpin loop structure;
  - e) wherein one end of said polynucleotide duplex comprises a target polynucleotide and each polynucleotide duplex is an individually resolvable molecule detectable as a single molecule fluorescent point; and
  - f) wherein fluorescence from said single molecule fluorescent point exhibits single step photobleaching and said attachment does not exhibit fluorescence.

REPLACE CLAIM 44 WITH THE FOLLOWING:

44. An array according to claim 43 wherein said attachment is a covalent attachment.

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### **Reasons for Allowance**

The following is an examiner's statement of reasons for allowance:

The claims are drawn to an array of nucleic acids immobilized at discrete sites and being optically resolvable. Each of the immobilized molecules comprises a duplex forming a hairpin loop and each is individually resolvable, detectable as a single fluorescent point exhibiting single step photobleaching. The prior art teaches serial dilutions whereby individual molecules are resolvable. However, the prior art does not teach attachment of duplex polynucleotides at discrete sites whereby "each" of the polynucleotides is individually resolvable as instantly claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Conclusion**

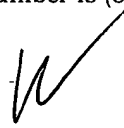
Claims 43, 44 and 47-55 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (571) 272-0741 until 13 January 2004. The examiner can normally be reached on 6:00 TO 3:30 Monday through Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (703) 308-1119. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 308-8724 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-0507.

A handwritten signature in black ink, appearing to be 'BJ Forman', is written above the typed name.

BJ Forman, Ph.D.  
Primary Examiner  
Art Unit: 1634  
February 5, 2004